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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/690,925	10/17/2000	Hardy Lee Crumby	IGT1P040	3189

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BEYER WEAVER & THOMAS LLP
P.O. BOX 778
BERKELEY, CA 94704-0778

EXAMINER

MARKS, CHRISTINA M

ART UNIT

PAPER NUMBER

3713

DATE MAILED: 01/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/690,925

Applicant(s)

CRUMBY, HARDY LEE

Examiner

C. Marks

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 19 November 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

The objection to the specification for typographical errors is withdrawn because of the amendment to the specification filed on November 19, 2002.

Drawings

The corrected or substitute drawings were received on November 19, 2002. These drawings are acceptable. A complete set of formal drawings are now required in response to this office action.

Claim Rejections - 35 USC § 112

The rejection of claims 16, 27, and 38 under 35 U.S.C. 112 has been withdrawn due to the amendment removing the trademarked terms from the claims received on November 19, 2002.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the matter of the claimed transparency, the claimed subject matter needs to be better described, as to be easily understood by one of ordinary skill in the art. It is not understood the usage of the verb transparent or how the transparency provides anything novel.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robb (US Patent No. 6,488,580, O'Toole et al. (US Patent No. 6,345,294), Goody (US Patent No. 6,097,721), Cunningham et al. (US Patent No. 6,366,217), and Alcorn et al. (US Patent No. 6,149,522) viewed collectively.

The invention disclosed in this application is a video gaming machine that can connect to a wide variety of gaming services by employing a communications multiplexer and a boot server. The problem addressed that the invention claims to solve is that there is a possibility based upon manufacturers and applications that each of the gaming servers may use different application protocols. These application specific protocols are programmed into the gaming software for each machine and referred to as "native communications protocols" and may vary from machine to machine.

The invention claims to use the communications multiplexer device in order for the gaming machine to send a message over one of the gaming services networks and assuming the message will reach a particular server without any knowledge of the network hardware.

Furthermore, the communications multiplexer device receives messages from the gaming machines at its communication ports (of which the number can vary). These ports are configured to be compatible with the physical interface and physical communications protocol of each game service.

The communications multiplexer device then may multiplex and convert all the messages received at its ports into a second communications protocol, TCP/IP, such that the messages from each port may be sent to the gaming service servers via a network using the output communication port. This encapsulation, addressing, and sending of messages is performed with processor logic stored on the multiplexer.

Furthermore, the invention claims the communications multiplexer device has the ability to de-multiplex message received at the output communications port in TCP/IP protocol, determine a destination communication port for each message and convert the message back to the native protocol. This conversion and routing can be done without interpreting the contents of a message and the communications multiplexer device has the ability to encrypt messages.

The communications multiplexer device is connected to the gateway device in any manner known as a network interface (such as a wired Ethernet, cellular network, etc.), which is further connected to a LAN containing the gaming service servers. The boot server may be used to initialize one or more communications multiplexer devices by assigning an IP to the device and identifying the game service servers currently in communication. Each port can also be assigned a host IP number that allows a game service server or some other device to address messages to a particular port. Furthermore, a firewall may be instituted for security purposes.

The method for provided for communications between a gaming machine and one or more gaming service servers is disclosed. The method is obtaining an IP address from the boot server, getting initial parameters for the communication ports and identifying valid ports. Further, these ports are then mapped to game service servers and a physical communication protocol is set for each port to establish communications.

Through the teachings of US Patent 6,488,580, Robb discloses that a user can connect into a master gaming controller that has a number of casino servers attached thereto (Column 10, lines 11-13) axiomatically through a plurality of communication ports. Applicant discloses that it is known in the art to network a gaming machine to a variety of gaming services such as an accounting server, a progressive server, a player tracking server, and a cashless pay server (FIGURE 1). Through the architectural disclosure of Robb which has a central gaming server networked to a variety of casino servers, the prior art admitted to by Applicant, and that which is well known in the art, a gaming apparatus is defined that uses a controller, a communications multiplexer, and a network interface. The device of Robb is fit for a communications multiplexer in that a number of machines can access the master gaming controller and the master gaming controller is the host to a plurality of outputs from the numerous casino servers that can then be accessed by the end user machine (i.e. multiple lines in and out).

The network interface for creating the network described by applicant is not defined but the use of any network interface, such as Ethernet or wireless, and the components necessary to implement these networks are so well known in the art that it is obvious to one skilled in the art at the time of invention to substitute other such forms. Furthermore, it is also well known in the

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art to use a firewall as a means for offering protection for the network, thus the usage of such would be obvious to one with ordinary skill in the art.

In US Patent No. 6,345,294, O'Toole et al. provide a teaching of what a boot server is and the functionality of one. O'Toole discloses that upon being powered on an apparatus can make use of known protocols of bootp or DHCP requests to obtain a source of network parameters. The boot server or DHCP server is a computer that acts as a server in the local networking environment and that responds to certain types of route request messages. A boot server or DHCP server typically responds with a small message that contains some parameters that the requesting computer needs to be given. These parameters typically include the IP address of the apparatuses that is attempting to boot, the subnet mask of the appliance, the IP addresses of one or more routers, one or more name servers, as well as numerous other optional parameters (Column 7, lines 40-60).

Likewise, the invention also discloses the use of a boot server. As taught by O'Toole et al. the functionality of a boot server is vital to a network communication among devices. The boot server will provide IP addresses to the device attempting to boot as well as the addresses of other devices and servers as an aide in the routing of messages. Furthermore, because it is disclosed that the boot server can provide any information relating to initialization or routing, it would be axiomatic that this boot server would be able to provide specific protocols as being used by the ports. With the various servers admitted by Applicant as prior art, it would be obvious to one skilled in the art at the time of invention to incorporate a boot server to aid in initializing these devices in order to cut down on hardware, while at the same time reducing the

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31
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costs by creating a central boot server in charge of servicing and routing requests from the other servers.

In the manner of the communications multiplexer, the usage of such is suggested by US Patent No. 6,097,721 (Goody) and US Patent No. 6,366,217 (Cunningham et al.) and easily incorporated into the gaming apparatus of Robb which already has a master gaming machine with a plurality of outputs. Goody teaches that integrated telecommunications systems that carry different types of signals for different types of applications have to properly multiplex and demultiplex the different signals (Column 1, lines 29-31). Goody further discloses that such a communication system is a network computer (Column 2, line 65). It is well known in the art that a gaming device connected to a gaming service server is basically a network computer with specially adapted well-known hardware and software to support the game; therefore, the different types of signals from the various applications in the games would need to be multiplexed and de-multiplexed in order for proper operation of the device. It would be axiomatic to the functionality of Goody, that a processor logic be used in order to properly multiplex and demultiplex these signals. Furthermore, Cunningham et al. teaches of a data collection module, obviously with a power supply incorporated in order for functional operation, that can be connected to a third party device via a RS-232 communications port, which axiomatically will be initialized for use and which the number of is not relevant, which is configured to emulate the third party devices native communication protocol. The data collection module server thus provides data collection, protocol conversion and emulation of the third party devices collection schemes such that the data collection module is transparent to the third party data concentrator. Furthermore, it allows the third party device to pull the data

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collection model using its own native protocol. The data collection module can also be implemented as a board solution, which is designed to be installed inside the third party device that can multiple interface modules (Column 32, lines 56-65; Column 33, lines 1-4).

Furthermore, the data collection module will be assigned an Internet address in order for transmit and receive information from the host (gaming servers) in the form of a TCP/IP signal (Column 46, lines 11-13). The host will also be assigned addresses which to transmit and which to receive the data collection module signals. (Column 46, lines 9-11). It can thus be inferred by one skilled in the art that if the host is assigned addresses in which to transmit and receive, that specific ports are assigned to the host in order to facilitate the communication between the native language and the TCP/IP protocol. Cunningham et al. further disclose that the system allows for an extensive network of communication between high grade communication equipment without having to implement an entirely new system for the information collection (Column 6, lines 15-19), thus noting that by emulating and converting devices with different protocols can be used together via the data collection module. This basically defines that a device, such as a multiplexer stored in a gaming machine, can use its ports to transparently collect data (receive messages) from a third party device, such as a gaming machine itself, in order for the modulator to collect the messages and emulate the native protocol of the gaming machine. This device can also communicate with a server and receive messages from a server using TCP/IP. It would be axiomatic to the functionality of this emulation device that the ports contain a communications output port in order to transfer the emulated language to the desired device while at the same time each separate port be configured to be compatible with the native language of the third party service and processor logic be used to encapsulate, address, and send the messages. Furthermore,

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it would have been obvious to one skilled in the art at the time of invention to adapt the communication system in the gaming apparatus as defined by Robb to perform the operation of the data collection module as defined by Cunningham et al. for reasons supplied by Goody et al. as to why multiplexing and de-multiplexing is desirable in a multiple application environment. By using a multiplexer as the means for the data collection model and incorporating a board of ports into the multiplexer, it is possible to create a system where a variety of applications can use the same medium for server messaging, yet still properly protect and restore the original protocol, being the protocols defined by the prior art, of the message. As noted by Applicant, the EEPROM is used for many applications in the gaming industry and is encoded with a special signature that is used to verify its authenticity. Many gaming specific information is stored in this device, as it is well known in the art that it can easily be erased and new information recorded. Therefore, it would have been obvious to one skilled in the art at the time of invention to use the already present EEPROM to store configuration data for the ports as it is a secure means, validated by signature, and it is not permanent so if the port data changes, as can the EEPROM.

In US Patent No. 6,149,522, Alcorn et al. disclose that in order to be acceptable for casino use, an electronic gaming system must provide both security and authentication (Column 1, lines 42-44). It would be essential to the intent of this requirement that encryption and authentication also be provided for communications between machines and servers. Therefore, it would be obvious to one skilled in the art at the time of invention to employ the methods taught by Alcorn et al. for casino security to the communications across the network in order to provide

a system that is known and trusted to be secure and can not be infiltrated by those without access.

Therefore the apparatus and the methods of use for communications which is disclosed by or axiomatic to Robb (US Patent No. 6,488,580), O'Toole et al. (US Patent No. 6,345,294), Goody (US Patent No. 6,097,721), Cunningham et al. (US Patent No. 6,366,217), and Alcorn et al. (US Patent No. 6,149,522) viewed collectively contains all elements as claimed by applicant.

Response to Arguments

The Sides reference does not meet the new limitations of a plurality of communication ports of the amended claims and therefore has been withdrawn. Further, Applicant's arguments with respect to all claims have been considered but are moot in view of the new ground(s) of rejection.

However, in response to applicant's argument that there is no suggestion to combine the references and with respect to the new reference Robb, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, motivation is present as taught by O'Toole in the manner of the boot server. O'Toole teaches that a boot server obtains network parameters upon being powered up. A boot server is also used to provide parameters to the requesting machine. In the case of Robb, a boot

server would have been obvious to one skilled in the art at the time of invention because there are a number of servers connected to a central gaming server. Based upon the teachings of O'Toole, one skilled in the art would be motivated to incorporate a boot server into the device or Robb to aid in initializing these devices in order to cut down on hardware, while at the same time reducing the costs by creating a central boot server in charge of servicing and routing requests from the other servers.

Further, in this case, motivation for using a multiplexer is taught by Cunningham et al. and Goody. Goody teaches that network systems that carry different signals must properly multiplex and demultiplex the signals. Robb discloses a system with a variety of casino servers in communication with a central gaming server and it is known in the prior art and acknowledged by applicant that such casino servers can have different signals. Further, Cunningham et al. teaches that by using a data collection module, the system may collect data, convert protocols, and emulate. An extensive network of communication between high-grade equipment, such as the casino network of Robb, can then be allowed to communicate without having to implement a new system of information collection. Therefore, it would have been obvious to one skilled in the art at the time of invention to adapt the communication system in the gaming apparatus as defined by Robb to perform the operation of the data collection module as defined by Cunningham et al. for reasons supplied by Goody et al. as to why multiplexing and demultiplexing is desirable in a multiple application environment. By using a multiplexer as the means for the data collection model and incorporating a board of ports into the multiplexer, it is possible to create a system where a variety of applications can use the same medium for server messaging, yet still properly protect and restore the original protocol of the message.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 5,766,076: Gaming network wherein a plurality of servers are connected through a main gateway via a multiplexer switch to a central computer and workstation.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Marks whose telephone number is (703)-305-7497. The examiner can normally be reached on Monday - Friday (7:30AM - 4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, V. Martin-Wallace can be reached on (703)-308-1148. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9302 for regular communications and (703)-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-1148.



cmm

December 31, 2002



MICHAEL O'NEILL
PRIMARY EXAMINER